

Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT

NO. 2777 MAP \_\_\_\_\_

GEOCHEMICAL REPORT

by

J.M. Newell, P.Eng.  
P.R. DeLancey, M.Sc.

on surveys completed November 9th - 27th, 1970, on the

IXL CLAIM GROUP

situated on

Moresby Island and centred 3 miles south of Sandspit

in the

SKEENA MINING DIVISION

53°N, 131°W, S.W.

(NTS 103-G-4)

and owned by

TEXAS GULF SULPHUR COMPANY

2777

14 December 1970

Vancouver, B.C.

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#1 Geachem Soil Sampling Plan

LIST OF ILLUSTRATIONS

Geochemical Soil Sampling Plan	1"=660'	in pocket
Location Map (inset on above)	1"=4 miles	

## GEOCHEMICAL REPORT

### IXL CLAIM GROUP

#### INTRODUCTION

The IXL Claim Group was staked, by Texas Gulf Sulphur Company, during December 1969, to cover a prominent limonite stain zone occurring immediately south of Sandspit. Part of this zone is covered by the Airport Claim Group (owned by Falconbridge Mines Ltd.) which the IXL Group surrounds.

Follow-up reconnaissance mapping and sampling during the summer of 1970, lead to the subsequent completion of the detailed soil sampling survey which is the subject of this report.

#### LOCATION AND ACCESS

The IXL Claim Group covers an area extending southeastwards from Shingle Bay, immediately west of the village of Sandspit, to the north shore of Copper Bay. The Airport Group lies within the northern part of the group.

The Sandspit-Copper Bay road passes through the eastern margin of the property, providing easy access from Sandspit.

#### GENERAL GEOLOGY AND PROPERTY DESCRIPTION

The Airport Claims cover a small quartz diorite plug which intrudes Jurassic volcanic rocks of the Yakoun Formation, adjacent to the trace of the strong, regional Sandspit Fault (Sutherland Brown, B.C.D.M. Bulletin #54). To the southeast of this intrusive, within the area covered by the IXL Claims, the Yakoun volcanic rocks exhibit varying degrees of silicification and pyritization, extending along the general trend of the fault trace. The pyrite mineralization gives rise to a prominent limonitic stain zone. Scattered anomalous copper

values are present in silts from streams cutting the fault scarp and this programme was designed to further evaluate these anomalies.

#### FIELD METHODS

During the summer of 1970, geochemical samples were collected from creeks and seepage areas along the axis of the pyritic alteration zone associated with the Sandspit Fault. Some anomalous values were obtained, and in order to determine their extent, a more detailed soil sampling programme was undertaken in November 1970. A crew of two men was employed, under the supervision of P.R. DeLancey.

A grid was established, using compass and chain as control and the Sandspit Road as a base line. Flagged lines were spaced at 500-foot intervals. Soil samples were collected at 100-foot nominal intervals along these lines. Samples were taken from the "B" horizon with grubhoe or auger, depending on local conditions. Care was taken to sample only those areas where "B" horizon material was obtainable, generally at a depth of 12-18", (hence the irregular distribution of samples on some traverse lines).

Three short sample traverses were made through the southernmost claims of the Airport Group, in order to correlate results with those previously reported by Falconbridge Mines Ltd. Similar traverses were run over adverse claims covering old showings on Copper Bay, to determine the geochemical response from this mineralization. This information was considered pertinent to the evaluation of data from the IXL claims.

The samples were placed in water-resistant paper bags and shipped for total copper analysis by the Barringer Research Ltd. laboratory in North Vancouver.

### LABORATORY METHODS

All samples were oven-dried and screened through 80 mesh standard screens. The minus 80 mesh fraction of the dried sample was treated as follows, for determination of total copper, using the atomic absorption technique, and reporting values in parts per million copper.

1. Weigh 0.2 gm into an 18 x 150 test tube, calibrated at 5ml.
2. Add 2 ml of perchloric acid.
3. Digest for approximately four hours on a hot plate. The heat is adjusted so that the acid fumes slightly.
4. Cool and dilute with water to the 5 ml mark and mix.
5. Read on spectrophotometer using freshly made up standards.
6. Aliquots may be taken from these test tubes for normal colorimetric analysis of copper, if desired.

### DISCUSSION OF RESULTS

A total of 832 soil samples were collected in the course of the programme. A value distribution curve shows a peak in the 11-29 ppm range (see inset on attached map). The full range of background values extends from 5-70 ppm copper, but the shape of the distribution curve suggests the presence of two background populations. The lower background values are associated with unaltered volcanic rocks of the Yakoun Formation, while somewhat higher values are encountered in areas of pyritization and silicification, notably adjacent to the trace of the Sandspit Fault.

The threshold of geochemical interest is represented by copper values in the 71-90 ppm range and values in excess of 90 ppm are considered anomalous.

The geochemical survey has outlined a long, narrow, linear anomaly following the trend of the Sandspit Fault. Local peaks can be correlated with areas of stronger silicification and pyritization of the

andesitic rocks exposed along the fault scarp. Less extensive, and generally weaker anomalies, occur to the west of the fault trace. Almost invariably they are associated with outcrops of pyritized volcanic rocks, or very weakly mineralized dykes of quartz diorite, presumably related to the small stock to the north.

#### CONCLUSIONS

The anomaly outlined on the eastern margin of the grid area is attributed to the presence of weak copper mineralization in the altered rocks of the fault zone. Seepage areas are a common occurrence along the base of the fault scarp and it seems probable that the anomaly has been enhanced by metal concentration in this environment.

The pattern of anomaly distribution reflects the northwesterly trend of faulting in the area and is similar to that encountered by Falconbridge Mines Ltd. on the Airport Group.



P.R. DeLancey, M.Sc.



J.M. Newell, P.Eng.

Vancouver, B.C.

14 December 1970

APPENDIX A

Statement of Qualifications

Mr. P.R. DeLancey obtained his B.Sc. degree in Honours Geology, from the University of Manitoba in 1965. He received his M.Sc. degree in 1970, from the same university. In the interim he was employed by Chile Exploration Company (Anaconda) on the geological staff at Chuquicamata, Chile.

He has been employed as a Staff Geologist in Texas Gulf Sulphur Company's Exploration Division since 1969.

Mr. M.J. Callaghan is a prospector who, over the last four years, has been employed by both major mining companies and consulting engineering firms.

Mr. M. Martin is a prospector of more than 15 years experience with several major mining companies. Both Mr. Callaghan and Mr. Martin are thoroughly experienced and conversant with the techniques of geochemical sampling.



J.M. Newell



DOMINION OF CANADA:  
PROVINCE OF BRITISH COLUMBIA.  
To Wit:

**In the Matter of** Assessment Work carried out on the IXL Mining Claims, situate 3 miles South of Sandspit, in the Skeena Mining Division.

I, John M. Newell, agent for Texas Gulf Sulphur Company.  
of 701-1281 West Georgia Street, Vancouver 5, B.C.

in the Province of British Columbia, do solemnly declare that during the period 9-27th November, 1970, I caused assessment work to be done on the IXL Claim Group to the value of \$4448.40 under the supervision of P.R. DeLancey, M.Sc. The expenses were incurred as follows.

Geochemical Soil Sampling Survey

P.R. DeLancey (between 9th-27th November) 6 days @ \$50	\$ 300.00
M.J. Callaghan 9th-27th November 19 days	
M. Martin 9th-27th November 19 days	

Contract price paid to Messrs. Callaghan and Martin for 19 days work, including room, board and on site transportation \$3000.00

Laboratory Costs

832 samples analysed for total copper @ \$1.20/sample \$ 998.40

Interpretation & Report

J.M. Newell, P.Eng. 2 days @ \$75	<u>\$ 150.00</u>
	\$4448.40

And I make this solemn declaration conscientiously believing it to be true, and knowing that it is of the same force and effect as if made under oath and by virtue of the "Canada Evidence Act."

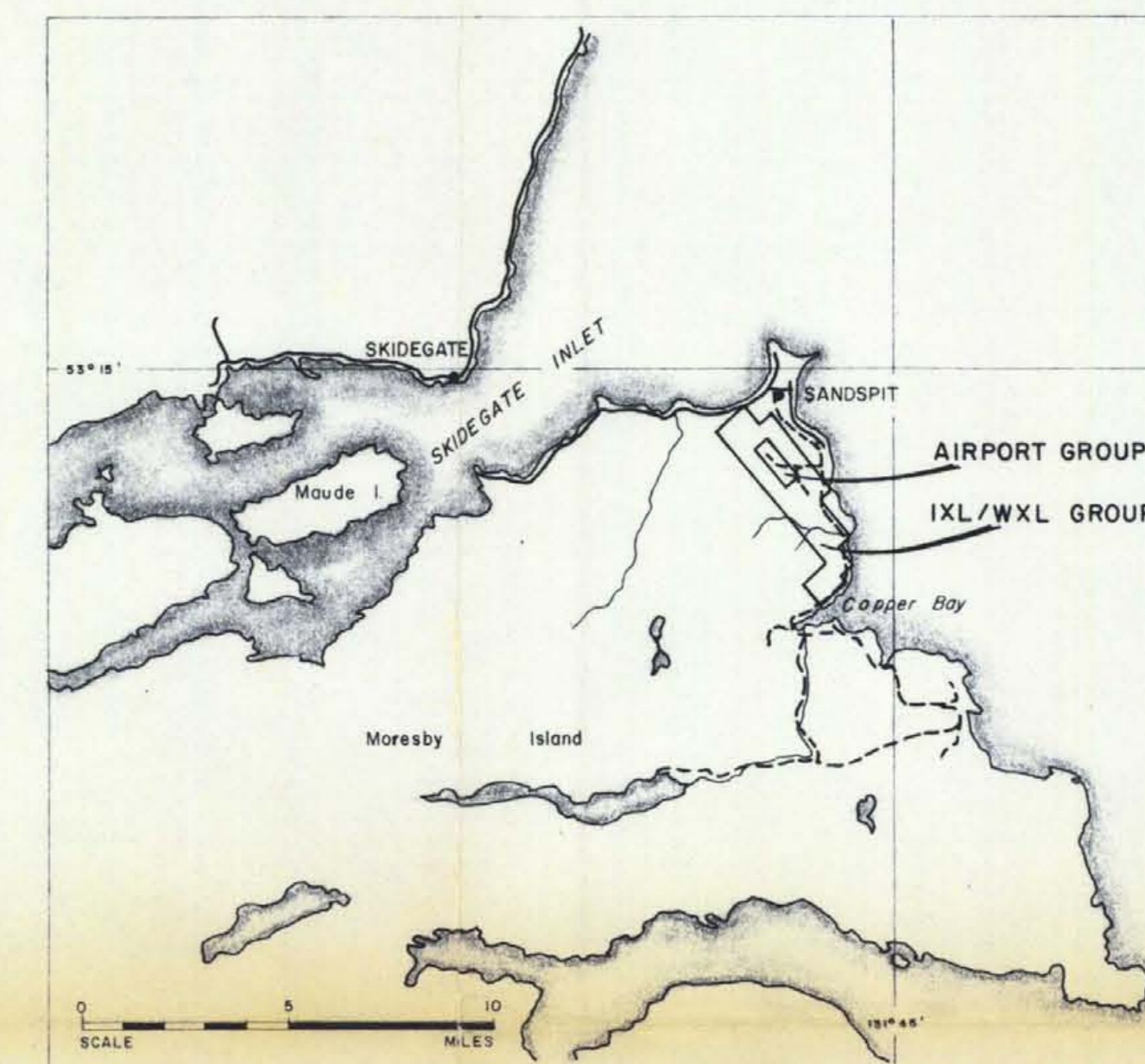
Declared before me at the *City*  
of *Vancouver*, in the  
Province of British Columbia, this *15*  
day of *Dec.* *1970*, A.D.



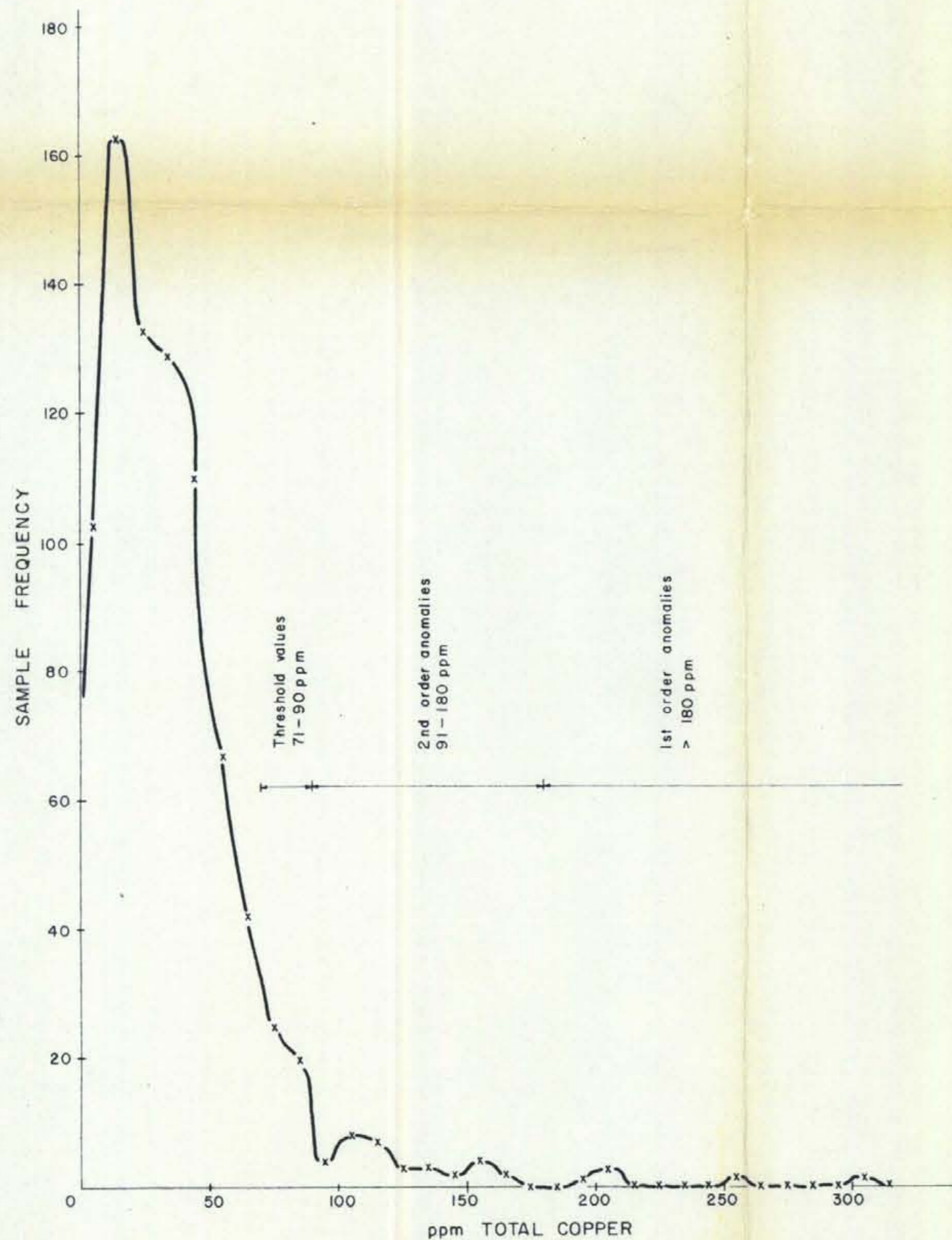
*Juli Susan*  
A Commissioner for taking Affidavits within British Columbia or  
A Notary Public in and for the Province of British Columbia.

VALUES TAKEN FROM FALCONBRIDGE  
GEOCHEMICAL SURVEY OF  
AIRPORT CLAIMS

FALCONBRIDGE  
AIRPORT 1-12 CLAIMS

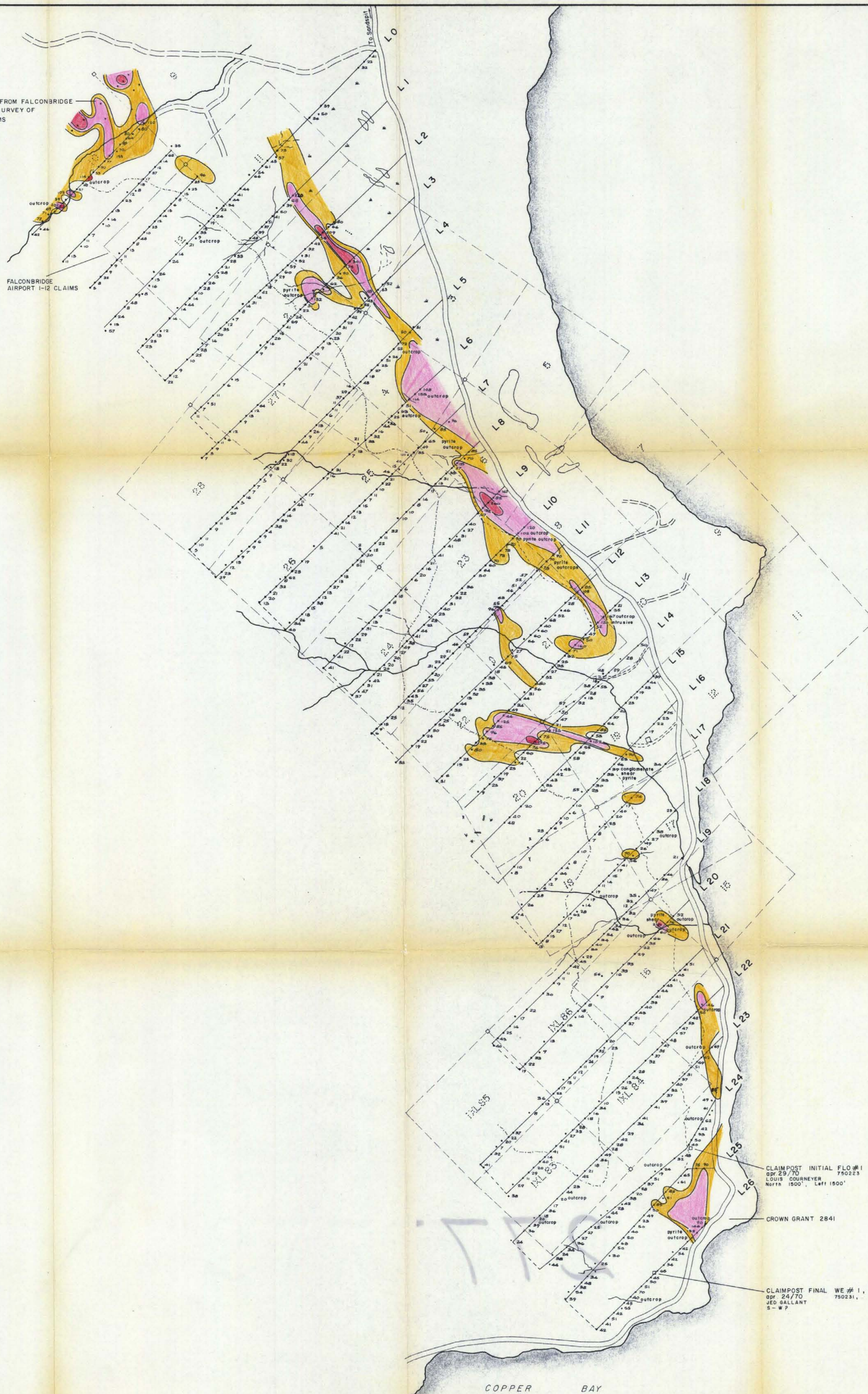


LOCATION MAP



FREQUENCY DISTRIBUTION - TOTAL COPPER VALUES

TO ACCOMPANY GEOCHEMICAL REPORT BY J.M. NEWELL AND P.R. DALANCEY  
ON IXL CLAIM GROUP, SANDSPIT AREA, SKEENA MINING DIVISION, DATED DEC 14, 1970.



CLAIMPOST INITIAL FLO #1  
OPR 29/70 750223  
LOUIS COUDREYER  
NORTH 1500' EAST 1500'

CROWN GRANT 2841

CLAIMPOST FINAL WE # 1, # 2  
OPR 24/70 750231, 750232  
JED HALLANT  
S-W 7'

REFERENCE

- SOIL SAMPLE LINE & STATION with total Cu analysis in ppm
- CLAIM LINE
- MAIN ROAD
- OLD LOG SLASH BORDER
- ESCARPMENT
- CREEKS
- SWAMP AND POND
- PINE BOG
- CABIN OR BUILDING

Department of  
Mines and Petroleum Resources  
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NO. 2777 MAP #1

2777 M-1

SCALE: ONE INCH = 660 FEET

TEXAS GULF SULPHUR CO.		
GEOCHEMICAL SOIL SAMPLING PLAN COPPER DISPERSION IXL GROUP SANDSPIT AREA, SKEENA M.D., B.C.		
WORK BY	DRAWN BY	DATE
M.J.C.		DEC, 1970